DOCUMENT RESUME

ED 275 857 CE 045 446

TITLE ESITC Review of On-Job Training.
INSTITUTION Electricity Supply Industry Training Committee, London (England).
PUB DATE 82
NOTE 9p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adult Education; Career Education; Developed Nations; *Electrical Occupations; *Electricity; *Energy Occupations; Foreign Countries; *On the Job Training; *Trade and Industrial Education; *Utilities
IDENTIFIERS *Great Britain

ABSTRACT

This summary presents highlights from the Report of the Working Party on On-Job Training of Great Britain's Electricity Supply Industry Training Committee (ESITC). Changes that have affected the way on-the-job training is carried out are listed. On-the-job training (OJT) is defined, and recipients of such training are described. Provided next are lists of complaints of trainees, complaints of staff involved in providing training, and problems experienced by managers and supervisors in providing OJT. A number of good practices are then identified. A brief discussion follows of four projects set up to test the feasibility of a particular OJT system and to identify the benefits and difficulties involved. Results of three of the four projects are presented. The training objective approach to training is briefly considered. Finally, the likely costs, resources, and benefits of setting up systematic OJT are discussed. Attachments include a listing of important factors in setting up good OJT systems and a listing of discussion points. Recommendations for improving OJT in the electricity supply industry are appended. (YLB)

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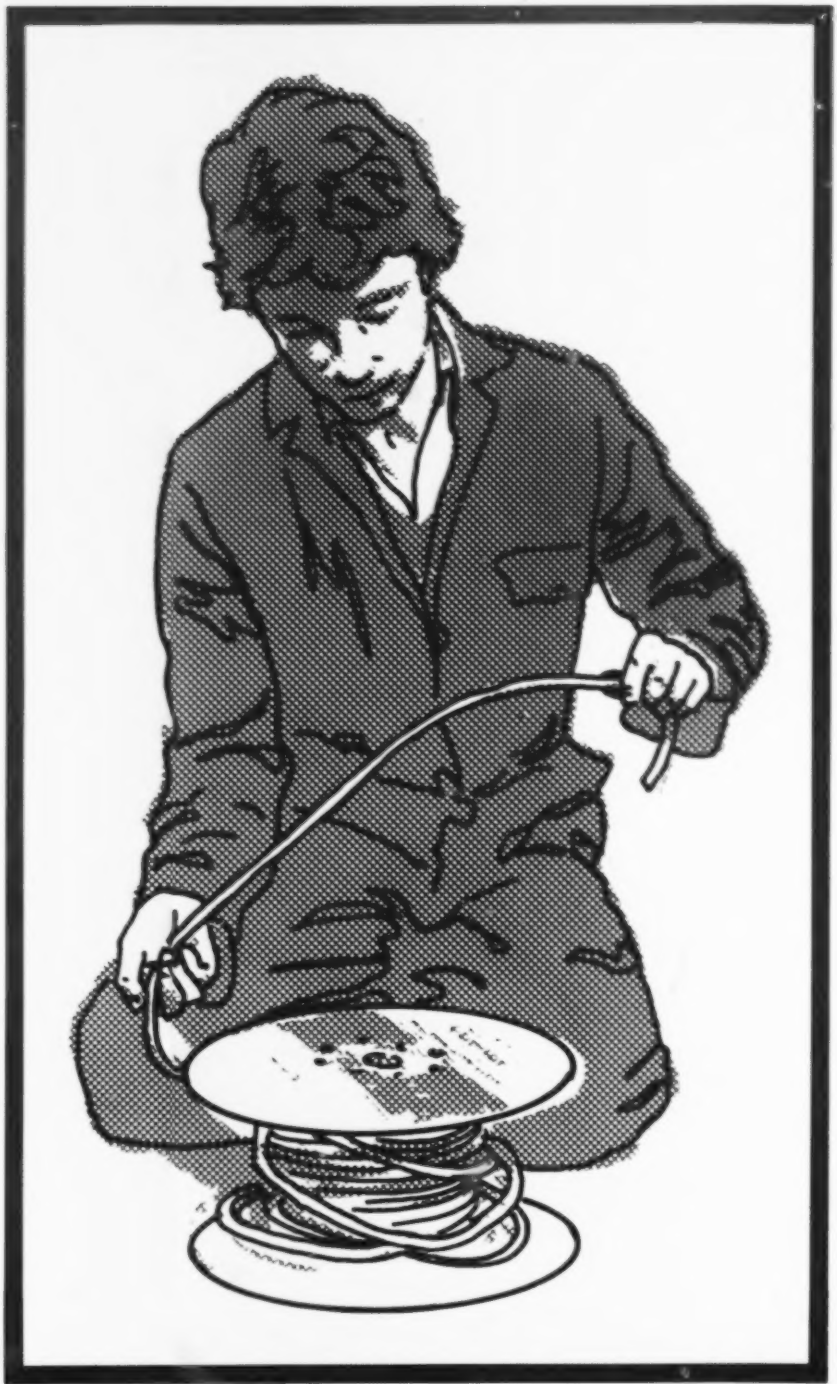
Review of On-Job Training



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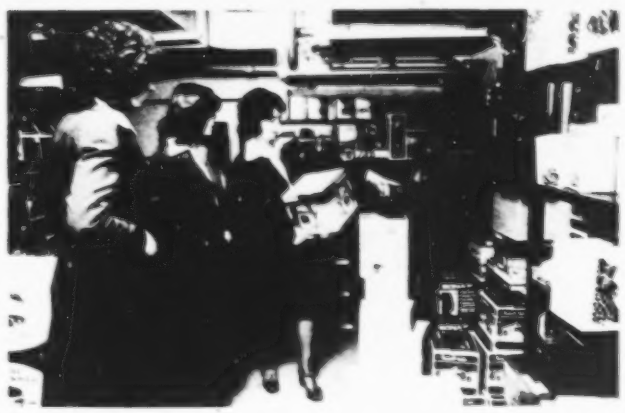
Electricity Supply Industry Training Committee
1982

REVIEW OF ON-JOB TRAINING

During 1980/81 the ESITC circulated for comment in the industry the Report of its Working Party on On-Job Training. The membership of the Working Party consisted of representatives of electricity boards and trade unions, and they were asked to look at on-job training in the industry and formulate whatever useful advice they could on: –

- the aims of on-job training, and ways to design it, organise it and carry it out;
- the role of non-training staff who in the main are responsible for carrying out the on-job training; and any problems of attitude, understanding or communication that either they or the trainees may have in making on-job training a productive experience.

Some of the points that are brought out in the Working Party's report are given in this summary, in the belief that wider discussion of them will benefit the industry. (The recommendations which the Working Party made to the ESITC, and which the Training Committee accepted, are given in the appendix at the end of this discussion paper.)



1 Over the years there have been big changes affecting the way on-job training is carried out in industry. They include changes in:

- the way young people are educated. For example, from the 1960s onwards, school education has increasingly stressed learning through discovery and understanding, not just by rote;
- the abilities of school leaver applicants for jobs, age for age. Many of the more able 15-year-old school-leavers of the 1950s would today stay on at school and enter university as 18-year-olds;
- much greater reliance on learning the basic skills off-the-job first, in the training centre, than used to be the case;
- industry's work methods, manning and equipment. In some ways, more is expected of young people now, right from the first day on-job, than in the 'tea-boy' era. In other ways, of course, things are easier for them.

2 There have been other, broader social changes affecting the way in which young people regard adults, work and working life. All have their impact in the Electricity Supply Industry, as they do elsewhere.

3 Some would claim that the changes listed are for the worse. Others argue that they represent definite gains, as well as some losses. Whatever you think of them, though, the changes *have happened*; they are part of the reality in which training of today's young entrants must be carried on.

What do we mean by 'on-job training'?

4 We usually think of training as meaning **instructing** people to help them learn new skills. Some on-job training activities are certainly concerned with learning new skills, especially those that cannot be covered in the training centre. But on-job 'training' periods are often meant also to be opportunities to **practise** skills already learnt, but in real conditions. (A trainee may also need to *demonstrate* to others, and to himself, that he already has a particular skill.) Again, for the younger trainee, his early spells on-job are important as on-job *experience* – experience of work and effort all day; experience of real conditions; of supervision; of work in a team; of being 'the Board' in the eyes of consumers and the public. All these are factors in his development.

5 So 'on-job training' may well mean 'on-job instruction, practice, experience and development'. It may require staff to give instruction – but equally it may call only for clear direction as to what work must be done, followed by careful checking of per-

formance. It will require thoughtful supervision – and not only from supervisors. And the quality of experience and development on-job can be affected by the views and actions of **all** whom a trainee encounters in the workplace – whether or not they see themselves as on-job 'trainers'.

6 Clearly, then, to improve on-job training, more care must be taken in describing its purpose, in the case of each trainee, so that both he and the other members of staff he comes into contact with, will have a clearer idea of what they are expected to do.

Who receives on-job training?

7. All young, trainee entrants to the industry receive on-job training as a vital part of their preparation and for clerical, administrative, sales and accountancy trainees particularly, it makes up the larger part of their training programmes. But it can also be profitable for older, established staff – when moving to a new post, or preparing for a new occupation within the industry, or developing and improving skills within existing jobs.

How well do we do on-job training in the Industry?

8 The answer seems to be – 'In some instances very well, but in many cases rather badly'. Taking the problem areas first, trainees complain of –

- apparent lack of interest shown by those responsible for training including management, leading to
- frustration
- low motivation
- poor training
- too much routine or boring work
- being regarded as temporary or fill-in staff
- having no planned programmes of work or being unable to participate in real work
- insufficient information on the work of departments, the work they themselves are to undertake, and the exact purpose of the training.

On the other hand, staff involved in providing training complain of

- lack of warning that trainees are coming
- lack of discussion on the content of their programmes (or lack of programmes)
- lack of clear direction i.e. – no thought-out answer to the question 'What am I supposed to do with the trainee?'
- problems of workload – either not enough happening in the section to provide suitable work for the trainee, or
- too much happening for time to be spared for the trainee
- time pressures caused by lower present-day manning levels
- communications problems caused by shift work, and by the fact that trainees move around, within units and in some cases within the Board, and tend often to be 'unknown quantities' in the eyes of those they find themselves working alongside.

9 Common to both groups there are sometimes problems of standards. On the one hand it is sometimes argued that the training centres teach the wrong procedures, or teach standards which are not realistic in the work situation. On the other hand, the trainee must be able to recognise short-cuts and bad work-practices if he meets with them in the field. The standards he learns in on-job training will be affected by the kind of example he feels he is expected to follow.

10 Managers and supervisors also experience problems in providing on-job training:

- resources; how to spare the time and the people
- balancing the work that has to be done and the needs of permanent staff doing it, against what is owed to the trainee 'passing through'
- planning, checking and recording: how to establish simply what training needs to be done; whether it has been done; and letting others know that it has been done.

11 These are some of the problems which form one part of the picture. On the other hand a range of good practices existed in many instances, despite the difficulties; these included:

- training programmes drawn up for the individual trainee, making it clear what he was expected to do
- flexibility in the programme, so that staff on the spot could provide on-job training on specific pieces of work when they arose, and balance the

- need to carry out their own work with their duty to provide useful training
- allowing the trainee to help with 'real' work so that he makes a genuine contribution
- naming someone to act as a 'mentor' for each on-job training period, to receive the trainees at the beginning of the attachment and explain their work and how it fits in with other sections' work, before detailed instruction in specific jobs is given
- the use of questionnaires and check-lists of jobs to check that a trainee has been given all the necessary training and experience
- the use of projects on useful topics
- training modules and other documents which state clearly the training to be provided
- work books or log books for the trainee to record what has been learnt during a training attachment
- the use of a wide range of training attachments to provide broad experience
- job rotation for clerical staff to widen their experience.

12 These good practices were most effective when they formed part of an overall system where the training to be provided was clearly written down and a check could therefore be made to see that each trainee had actually received the intended training and experience.

What practical improvements in on-job training were tried out during the study?

13 Having identified a range of good on-job training practices in the industry which it was felt could be applied to all on-job training periods, the Working Party set up in co-operation with Electricity Boards four projects to test the feasibility of a particular on-job training system in different areas of training. The aim of the project work was to gain practical experience of operating a regulated and fully documented on-job training system, to identify the benefits and also any difficulties involved.

14 For each of the four projects, an area of on-job training was selected, and a training specification drawn up. This set out training objectives for each task a trainee should be able to perform after a training period in the particular section. For each of the training objectives, the conditions under which the task should be performed were given, in order to create the most realistic workplace conditions for trainees to use the skills and knowledge learned in formal training, while ensuring the necessary level of supervision and assistance to meet, for example, safety requirements. Finally, the standards to which the trainee should perform each task were given, as the basis for assessing progress.

15 The training objectives were accompanied by instructional guide notes for each of the tasks, designed as 'memory joggers' for those providing the training, and a monitoring sheet to record each trainee's progress in achieving the objectives.

16 The four projects were based respectively on the following areas of on-job training: operations and maintenance for technical staff trainees in the LEB; milling plant for craft apprentice mechanical fitters at West Burton Power Station, CEGB Midlands Region; customer accounts and records for clerical trainees in the LEB; and domestic electrical installation for craft apprentice electricians in NORWEB. In each case, the key tasks translated into training objectives were those which a newly-appointed fully-trained member of staff would be expected to be able to carry out.

What is a Training objective?

In the past, most descriptions of training have concentrated on what the **teacher** or the **tutor** will be doing *while the instruction is going on.* The training objective approach differs sharply from this, by focusing on what the *learner* must be capable of doing *after* the instruction has been given, to show that learning has in fact taken place. For example, in one of the field projects set up by the ESITC Working Party the following 'performance' was agreed with local staff as the basis of one training objective; it was decided that, *after* appropriate instruction, an apprentice mechanical fitter should be able, in respect of milling plant, to:

'Check, and carry out any necessary adjustment to the following:

Grinding role gap and tension

Shovel shroud ring gap
Coal feeder chain tension.'

The conditions in which the apprentice would be expected to carry out this 'performance' required of him after training, were also established e.g. the type of PF mill, the work specifications he could refer to, the degree of assistance and supervision available, etc.

Finally, as well as the performance and the conditions, the *standards* for assessment were agreed and written down as part of the training objective – how exact should the adjustments be, how long should the task take, what safety aspects must be observed, etc.

This approach ensures that in one key area of plant, both the trainee and the on-job trainers know from the start what it is he must eventually be capable of doing. The trainers in addition get some 'memory-jogger' notes to guide them in their training work – e.g. the importance of explaining to the apprentice the effects of poor tension, the main areas of wear etc.

Finally the 'mentor' or person in overall charge of that piece of the training has a record sheet on which he notes that the apprentice concerned was, or was not able, to show that he had achieved this particular training objective, as well as other similar ones in the series.

How do we know this can improve on-job training?

17 Three of the training specifications have been tried out in practice to test their feasibility and usefulness. The first to be piloted was the programme for engineering training, in early 1980. Whilst some problems in the design were identified, the main conclusions were encouraging:

i the objectives were found to reflect accurately the required training on the specific tasks

ii the engineering staff involved in providing the training were unanimous in the view that putting the training specifications into practice made it easier to provide more efficient on-job training

iii although more man-hours were used than under traditional arrangements, staff felt the effort involved was justified. (In making the comment on more man-hours, the staff had in fact over-estimated anyway the amount of documentation required)

iv the staff recognised the value of having a 'mentor' to co-ordinate and monitor the training

v the trainee reacted positively to the system.

18 It should be noted, however, that this 'pilot-run' of the system tested its feasibility in only one particular section; and to assess its value fully would need comparable trials in other units. Nevertheless, these results were undoubtedly encouraging.

19 The training specification drawn up for craft apprentices at West Burton Power Station was tried out over a period of ten weeks as suitable work arose; this meant that it was not possible to complete all the objectives. The specification was similar in design to the engineering one and contained objectives, notes of guidance and achievement records. Again, the results were encouraging and the 'mentor' for the exercise commented that the achievement record documents were essential for effective monitoring of the training and he had not found the paperwork a burden.

20 The domestic installation training specification for craft electricians took a slightly shorter form than the others to reduce the paperwork. This specification was tried out with fourth-year apprentice electricians, and reaction was again favourable. Further validation using a group of third-year apprentices is anticipated.

21 Isolated parts only of the clerical training specification have so far been tried out, due to the reorganisation of the unit for which it was drawn up.

What are the likely costs, resources and benefits of setting up systematic on-job training?

22 It is important that any developments in training arrangements should be cost-effective. In the majority of cases, about half of a trainee's time is spent on on-job training. Salary is the largest element of cost in on-job training, and this cost has to be paid whether or not the trainee is productively and usefully employed in the training period. On the one hand, a trainee might be inactive; or spending time on 'manufactured' work to occupy his time rather than helping out with 'real' work; or he may disrupt the progress of work, administration and supervision if his presence in a section has not been planned beforehand; or he may fail to learn and thus gain nothing from a training period. On the other hand, a trainee can be given work which is productive both in the sense of contributing to a section's workload and enabling him to learn personally. The Working Party found in its studies of on-job training practices in Boards and in its own fieldwork, that the best on-job training always combined these two elements of a genuine work contribution being made while useful personal learning and achievement took place; this obviously benefits both the Board and the trainee.

23 Better on-job training may be achieved in two ways: firstly, improving standards by designing better systems and providing adequate resources to implement them; and secondly, by making the most of the costly administrative effort that already goes into organising on-job training. The design of new systems could present problems in terms of the allocation of existing manpower resources to meet priority needs. Consideration will then be needed on how to effectively provide resources to implement these systems.

Attachment I

What are the important factors in setting up good on-job training systems?

Points to bear in mind include the following requirements:

i **management and organisation of on-job training**

(a) an acknowledged interest in and commitment to the provision of effective training on the part of all levels of management;

(b) a clearly defined training policy;

(c) the commitment of management should lead to someone at local level being given the responsibility for the organisation and administration of training, in line with the defined training policy;

(d) awareness of the demands made on the normal staff complement and the implications for their workload, whether or not a trainee is supernumerary.

ii **climate/communications**

(a) ensuring consultation with staff such as section heads who will supervise on-job training;

(b) telling trainees clearly what is expected of them in terms of what they should get out of each training attachment;

(c) taking account of the valuable role that A/RJCCs and LJCCs have in actively helping to generate and maintain a good on-job training climate.

iii **design of training**

(a) ensuring that the requirements of each piece of on-job training have been defined, in the form of training objectives. The advantages of this approach are that both trainer and trainee are properly informed and motivated from the start, and it also provides a basis for checking that the necessary training has actually been provided.

(b) identifying the key areas of training to be covered on-job by each trainee, normally involving discussion between full-time training staff and representatives from the sections/departments concerned. Training objectives should then be drawn up for each of the key areas, although of course many other useful and interesting elements of training will also be covered during the training period;

(c) ensuring that all staff involved in the process of on-job training are informed in good time of what training is to be provided in the section. This will allow time for the training to be planned which will benefit the trainee, and also give section heads the opportunity of judging whether this training can be provided during the specific period of the attachment, taking into account anticipated workload.

iv **implementation**

(a) choosing carefully the staff who are to provide training, taking account of their experience, ability and attitude towards training;

(b) providing guidance where necessary for those staff to help them carry out their training roles effectively;

(c) letting the trainee know what he is to do and what is expected of him;

(d) providing feedback on results to both trainer and trainee, to ensure that motivation is maintained, time is not wasted and achievement is recognised;

(e) supporting the on-job trainer in the form of suitable documentation on training aids, where necessary.

v **checking progress and monitoring**

(a) making sure that an effective monitoring system exists to ensure the training is satisfactory and to provide the necessary feedback for adjusting and improving an individual's on-job training in a particular work unit;

(b) remembering the possible areas in which LJCCs might become involved, as listed in the ESITC guidelines to DJACs in Bulletin 2, and including the local operation of on-job training programmes, links between on-job and the work of the training centres, and the effectiveness of training provided for staff involved in on-job training as instructors.

Attachment II

Discussion Points

Some of the points which emerge from the review of on-job training, and which groups of readers of this document may want in particular to discuss in terms of practices in their locality, are as follows:

i trainees undergoing on-job 'training' may at particular times require either face-to-face *instruction;* or *practice* of skills they already possess; or *experience* of work in order to develop; or all these things. How can staff be made more aware of these differing needs, and hence adopt the right role?

ii are there simple ways of improving local planning and communication about on-job training, in order to avoid some of the difficulties in its organisation?

iii the problem of standards is important. Are there ways in which local staff involved in on-job training can be helped to improve their awareness of the work of training centre staff – and vice versa? It is important that young people see good examples of attitude and work practice and seek to follow them – and at least are helped to put any occasional bad examples into the right perspective. How can this important process be assisted at local level?

iv What successful on-job training arrangements can be identified locally? What are the main ingredients in their success? Can they be identified and applied on other training areas? What are the priority areas for improvement?

Appendix 1
Recommendations

The Working Party's Report concluded with a number of recommendations for improving on-job training in the Industry, which can be summarised as follows:

(a) more care should be taken in the wording of training schemes and recommendations to spell out what on-job training, experience and personal development should occur, to make sure the training attachments provide these, and so that non-training staff have a better understanding of their own roles;

(b) training staff in the Industry should stimulate discussion on the objectives and design of on-job training, involving the Working Party's Report, case-material available from the fieldwork projects, and discussion of relevant aspects of putting into operation the new craft training Recommendations. It should be publicised that on-job training should be based on training objectives, after consultation with those involved, and should include an indication of the teaching/coaching input that will be required, and the motivation and work contribution expected of the trainee;

(c) local 'workshops' should be set up for trainers and non-training staff to develop improved on-job training systems;

(d) Electricity Boards should examine the formal training they provide to check that it matches up with on-job practices and standards, and look at ways of preparing trainees to cope with work experience, and reviewing subsequently that experience;

(e) the ESITC should make the Industry aware of the standards that it will in future expect for on-job training, and agree reasonable criteria against which the training will be inspected;

(f) the ESITC should re-examine Recommendations 2, 12 and 25 on the training of staff with part-time instructional duties in the light of this reconsideration of on-job training, looking particularly at the roles of staff who would be involved in up-dated systems of on-job training, and the aspects of designing training programmes. The possible need to produce supporting training package material for staff covered by Recommendation 25 should also be looked at;

(g) care should be taken to involve non-training staff at the appropriate stages in developing on-job training. A/RJCCs and LJCCs should be encouraged to inform themselves further about both formal and on-job training arrangements; discuss and comment on training needs, trends and practices; and look at the various ways that young people can be helped or hindered in the work place to come to grips and to terms with adult working life, including people's roles and attitudes. The trade unions also have an important role in encouraging better on-job training.

Published 1982 by The Electricity Supply Industry Training Committee,
30 Millbank, London SW1P 4RD.